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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

TSANG FOSTER, SUSY N

ART UNIT PAPER NUMBER

1745

DATE MAILED: 09/11/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/664,323

Applicant(s)

KARASAWA ET AL.

Examiner

Susy N Tsang-Foster

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 June 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 12-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 September 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4,6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I, Claims 1-11 in Paper No. 8 is acknowledged. The traversal is on the ground(s) that the Examiner has failed to provide an "appropriate explanation" of why it would be burdensome to search the inventions of Groups I and II as set forth in MPEP 803. This is not found persuasive because the Examiner has shown that undue burden exists for the related but distinct inventions since a separate classification was shown for each group of inventions as presented in the written restriction requirement mailed on 5/23/2002. See MPEP 808.02. It is also noted that MPEP 803 states:

There are two criteria for a proper requirement for restriction between patentably distinct inventions:

- (A) The inventions must be independent (see MPEP § 802.01, § 806.04, § 808.01) or distinct as claimed (see MPEP § 806.05 - § 806.05(i)); and
- (B) There must be a serious burden on the examiner if restriction is required (see MPEP § 803.02, § 806.04(a) - § 806.04(i), § 808.01(a), and § 808.02).

The Examiner has established criterion A in the written restriction requirement since the inventions of Groups I and II are distinct inventions relating to product and process of making the product.

As stated above, the Examiner has established criterion B as set forth in MPEP 808.02 by showing separate classification for the two groups of distinct inventions.

The requirement is still deemed proper and is therefore made FINAL.

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2. Claims 12-23 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Applicant timely traversed the restriction (election) requirement in Paper No. 8.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

4. The information disclosure statements filed 12/20/2000 (paper #4) and 3/8/2002 (paper #6) have been considered by the Examiner.

Drawings

5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "41j" has been used to designate both the second to last battery in Figure 17 and the last battery in Figure 17. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

6. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the locating means comprising one circular hole and one oblong hole recited in claim 10 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

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A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

7. The incorporation of essential material in the specification by reference to a foreign application or patent, or to a publication is improper. Applicant is required to amend the disclosure to include the material incorporated by reference. The amendment must be accompanied by an affidavit or declaration executed by the applicant, or a practitioner representing the applicant, stating that the amendatory material consists of the same material incorporated by reference in the referencing application. See *In re Hawkins*, 486 F.2d 569, 179 USPQ 157 (CCPA 1973); *In re Hawkins*, 486 F.2d 579, 179 USPQ 163 (CCPA 1973); and *In re Hawkins*, 486 F.2d 577, 179 USPQ 167 (CCPA 1973).

It is recommended to the applicants to insert "This application claims foreign priority to Japanese Patent Application No. HEI 11-267001, filed September 21, 1999" at the beginning of the specification.

8. The disclosure is objected to because of the following informalities:

On page 4, line 24, "a group of electrode plate" is grammatically awkward should be "a group of electrode plates".

On page 6, line 9, "VIC " should be "VIIC".

Appropriate correction is required.

9. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: In claim 10, the limitation “the locating means comprises one circular hole and one oblong hole” does not appear to be in the specification.

Claim Objections

10. Claims 1 and 7 are objected to because of the following informalities:

In claims 1 and 7, “a group of electrode plate” is grammatically awkward should be “a group of electrode plates”.

Appropriate correction is required.

11. Claims 4 and 10 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

In claim 4, the limitation “wherein a solder material is attached at portions in the positive and negative collector plates that are to be bonded to the lateral edges of the electrode plate group” does not appear to further limit claim 1 because claim 1 recites “a positive electrode collector plate and a negative electrode collector plate that are respectively bonded to said protruded lateral edges of the positive electrode plates and the negative electrode plates...”. It appears from claim 1 that the collector plates are bonded to the protruded lateral edges of the

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electrode plates and in claim 4, the collector plates do not appear to be bonded to the electrode plates or the limitation recited in claim 4 is a product-by-process limitation.

In claim 10, the limitation “the locating means comprises one circular hole and one oblong hole” does not further limit claim 9 because claim 9 recites “the locating means is a hole or a cut-out.” The Examiner is interpreting the limitation in claim 10 as “the locating means is selected from the group consisting of a circular hole and an oblong hole.”

Claim Rejections - 35 USC § 112

12. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

13. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1, and 6-8, the preamble “[a] battery comprising an electrode plate unit, including:” is indefinite because it is unclear whether the battery or the electrode plate unit is being modified by the word “including”. It appears to the Examiner that the preamble should read “[a] battery comprising an electrode plate unit, the electrode plate unit including:”.

In claim 1, the limitation “the positive electrode collector plate and the negative electrode collector plate are formed with protruded portions on a surface which is to be bonded to the lateral edges of the positive electrode plates and the negative electrode plates” (emphasis added) is indefinite because it is unclear whether or not the collector plates are bonded to the electrode plates and this limitation appears to contradict the limitation “a positive electrode collector plate

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and a negative electrode collector plate that are respectively bonded to said protruded lateral edges of the positive electrode plates and the negative electrode plates...”.

In claim 4, the limitation “wherein a solder material is attached at portions in the positive and negative collector plates that are to be bonded to the lateral edges of the electrode plate group” is indefinite because it is unclear whether or not the solder material is bonded to the lateral edges of the electrode plate group. It appears that this limitation is a product-by-process limitation and it is not given patentable weight.

Claims depending from claims rejected under 35 USC 112, second paragraph are also rejected for the same.

Claim Rejections - 35 USC § 102

14. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

15. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Morioka et al. (US 3,960,603).

See Figures 1, 2A-2C, 3, and 5; and column 1, lines 45-59; column 2, lines 30-41; column 3, lines 2-18; and column 4, lines 16-17 of the reference.

16. Claim 1 is rejected under 35 U.S.C. 102(e) as being clearly anticipated by Rouillard et al. (US 6,120,930).

See Figures 1-3D; col. 3, lines 20-67; column 4, lines 1-36; col. 5, lines 40-63; col. 7, lines 19-29 of the reference.

17. Claims 1, 6, and 7 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Suzuki et al. (US 6,432,574 B1).

See abstract; Figures 2A, 2B, 3A, 3B, 4A-4C, 5A-5D, and 6; col. 3, lines 34-48; and col. 5, line 27 to col. 6, line 10 of the reference.

18. Claims 1-3, 6, and 7 rejected under 35 U.S.C. 102(e) as being clearly anticipated by Oweis et al. (US 5,972,532).

See abstract; Figures 1-5; col. 1, lines 8-10; col. 2, lines 5-62; col. 3, lines 15-55; col. 4, lines 1-55; and col. 6, lines 5-25 of the reference.

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19. Claims 8-11 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Hirokou et al. (US 5,871,861).

See abstract; Figures 6, 7, 12; col. 3, line 23 to col. 4, line 23; col. 6, lines 1-65; col. 7, line 42 to col. 8, line 62 of the reference.

Claim Rejections - 35 USC § 103

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oweis et al. (US 5,972,532) in view of Coibion et al. (4,053,687).

The product-by-process limitations of claims 4 and 5 are not given patentable weight since the courts have held that patentability is based on a product itself, even if the prior art product is made by a different process (see In re Thorpe, 227 USPQ 964, (CAFC 1985), In re Brown, 173 USPQ 685 (CCPA 1972), and In re Marosi, 218 USPQ 289, 292-293 (CAFC 1983)).

Oweis et al. disclose all the limitations of claims 4 and 5 except that solder is used to bond the collector plates to the lateral edges of the electrode plate group.

Coibion et al. teach that welding or soldering can be used to connect a collector plate to each of the lateral edges of an electrode plate group (col. 2, lines 5-33) and that either welding or soldering provides for an effective electrical connection (col. 6, lines 44-46).

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to solder the collector plates to the lateral edges of the electrode plate group instead of welding the collector plate to the lateral edges of the electrode plate group because soldering can be equivalently used as a technique to connect the collector plate to an electrode plate group of a battery and it provides for an effective electrical connection between the collector plate and the lateral edges of electrode plate group.

22. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oweis et al. (US 5,972,532) in view of Cheu (US 5,674,641).

Oweis et al. discloses all the limitations of claims 8-10 except that the lead portions of the positive and negative electrode plates including locating means in the form of a hole for positioning the lateral edges of the positive or negative electrode plates with respect to the collector plate.

Cheu teaches providing holes in the lead portions of the positive and negative electrode plates for aligning the lead portions (tabs) of the respective positive and negative electrode plates prior to fastening a collector plate to each electrode polarity (See Figures 1 and 5, and col. 7, lines 32-67).

It would have been obvious to one ordinary skill in the art at the time the invention was made to provide holes in the lead portions of the positive and negative electrode plates because the holes in the lead portions allows the lead portions to be aligned prior to them being connected to a connector.

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Double Patenting

23. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

24. Claim 1 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of copending Application No.

09/614,769. Although the conflicting claims are not identical, they are not patentably distinct from each other because instant claim 1 is encompassed by the narrower scope of claim 1 of copending Application No. 09/614,769. Therefore, instant claim 1 is obvious over claim 1 of copending Application No. 09/614,769.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

25. Claims 1 and 6 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 5 of copending Application No. 09/694,347. Although the conflicting claims are not identical, they are not patentably distinct from each other because instant claims 1 and 6 are broader and read on the

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limitations of claims 1 and 5 of copending Application No. 09/694,347. Therefore, instant claims 1 and 6 are obvious over claims 1 and 5 of copending Application No. 09/694,347.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

26. Claim 1 provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 6 of copending Application No. 09/842,562 in view of Gozdz et al. (US 5,840,087).

The difference between instant claim 1 and claims 1 and 6 of copending Application No. 09/842,562 is that the latter set of claims recite that the group of electrode plates in which a plurality of positive electrode plates and a plurality of negative electrode plates are laminated alternately via separators. Instant claim 1 recites that the electrode plate unit (group) comprises a plurality of positive electrode plates and a plurality of negative electrode plates that are alternately stacked upon one another with intervening separators therebetween.

Gozdz et al. teaches laminating an electrode plate group comprising a plurality of positive electrode plates and a plurality of negative electrode plates that are alternately stacked upon one another with intervening separators therebetween and that laminating an electrode plate group provides for a flawless electrode/separator laminate interface that ultimately results in the ability to use thinner separator elements thereby increasing the energy density or capacity of the battery (see col. 2, lines 25-35) and a further advantage of optimal functional contact between the laminate elements (see abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to laminate an electrode plate group comprising a plurality of a plurality of positive

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electrode plates and a plurality of negative electrode plates that are alternately stacked upon one another with intervening separators therebetween because laminating an electrode plate group provides for a flawless electrode/separator laminate interface that ultimately results in the ability to use thinner separator elements thereby increasing the energy density or capacity of the battery (see Gozdz et al., col. 2, lines 25-35) and a further advantage of optimal functional contact between the laminate elements (see Gozdz et al., abstract).

This is a provisional obviousness-type double patenting rejection.

Conclusion

27. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Pat. No. 6,304,057 B1 corresponds to U.S. Serial No. 09/680,296 cited by applicants.

US Pub. No. 2001/0036574 A1 corresponding to US Serial No. 09/842,562.

28. Any inquiry concerning this communication or earlier communications should be directed to examiner Susy Tsang-Foster, Ph.D. whose telephone number is (703) 305-0588. The examiner can normally be reached on Monday through Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached at (703) 308-2383. The phone number for the organization where this application or proceeding is assigned is (703) 305-5900.

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The fax phone numbers for the organization where this application or proceeding is assigned is (703) 872-9310 for regular communications and (703) 872-9311 for After-Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

st/8 September 2002

Suey Tsang-Foster